

GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

I & CAD – Formation of Government of Andhra Pradesh – Development of Various Sectors – Issued of Guidelines on “NEERU-CHETTU” Sub- Mission (NCM), & Neeru Chettu (Water and Tree) Water Conservation Mission – Orders – Issued.

IRRIGATION & CAD (WRG-GRC) DEPARTMENT

G.O.MS.No. 70

Dated:04.12.2014.

Read:

G.O.Rt.No.2948, GA (Cabinet) Department, dated:25.08.2014.

ORDER:

There are prolonged dry spells and floods. Andhra Pradesh has faced deficit rainfall for five years in the last decade. Indiscriminate use of available water (rainfall, surface water, groundwater, and soil moisture) led to water crisis. Hence, the Government has brought all water conservation & plantation activities into a campaign mode for ensuring convergence of the resources, technologies and efforts of all concerned departments under the name of “Neeru-Chettu” (Water and Tree) to promote Water conservation, Water Management & Green cover improvement in a focussed way.

2. Whereas, in the reference read above, in view of the formation of separate States, Government of Andhra Pradesh have constituted a Group of Ministers of finalize the Guidelines for implementation of “NEERU-CHETTU” (Water and Tree) Programme. In the 1st meeting of the Group of Ministers held on 23.9.2014, and recommended to constitute a Technical Committee comprising of APSRAC (Andhra Pradesh State Remote Sensing Applications Centre), Chief Engineer, Hydrology, and the Director, Ground Water Department to determine parameters for determining water availability and also monitoring of progress in water Conservation with technical inputs, including use of latest technology for this purpose.

3. Government, after careful examination of the recommendations of Group of Ministers on the Guidelines for implementation of “NEERU-CHETTU”(Water and Tree), hereby, issue the guidelines on ‘Neeru-Chettu’ are as follows:

OBJECTIVES:

- To drought proof the dry areas through conservation of water and ensure its optimum utilization for supplementing life saving irrigation and drinking water sources through integrated water resources development and management.
- To bring all catchments and command areas of the irrigation sources under assured irrigation by rehabilitating them with watershed concept in a demand driven mode.
- To reduce the gap Ayacut by 50% in the next 5 years by increasing water availability and improving water use efficiency in irrigated areas.
- To treat the degraded lands and increase the area under green cover and density of the existing forests in a systematic manner to achieve “Green Andhra”.

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- To increase the area under production, the productivity and the incomes by strengthening the local self government institutions.

1. MAJOR INTERVENTIONS/ACTIVITIES:

I. Water Conservation & Management:

- i) De-silting of tanks and breach restoration.
- ii) Restoration of cascades, renovation of tanks and construction of new water harvesting structures by using latest remote sensing technology provided by APSRAC.
- iii) Catchment area treatment to prevent soil erosion and water conservation.
- iv) Training of engineers and other staff on Neeru - Chettu programme.
- v) Better water management through improved agricultural practices including cropping practice as envisaged in the project profile.
- vi) Better monitoring of water conservation by Information Technology enabled Management Information System (MIS) and Geographical Information System (GIS).
- vii) Conducting the water balance studies.
- viii) Diverting water from surplus basins to deficit basins.
- ix) Carrying out the inventory of existing water harvesting structures.
- x) Conducting repairs to the water harvesting structures where needed.
- xi) Construction of recharge pits for roof water harvesting (especially in urban areas).

II. Plantations:

- Avenue plantations, Plantations in open spaces, canal banks, village community lands, and tank foreshores, Institutional plantations (government office, Pvt. Institutions, schools, colleges etc), and Homestead planting
- Tree planting in degraded forest lands, barren hills, silvi-pasture lands, arid zones etc
- Planting in farmers' lands and farm bunds
- Raising plantations of timber, fruit and fodder bearing species in forest areas
- Tending and cultural operations in degraded forest areas to improve the quality and density of scrub and open forest along with creation and maintenance of fire lines.

2. STRATEGY/APPROACH:

- Optimizing conjunctive use of surface irrigation and groundwater to enhance primary sector productivity.
- Increasing availability of water through maximum storage in the available reservoirs in major, medium and minor systems by reducing run-off to the sea by integrated ridge to valley watershed management including catchment area treatment.
- Increasing groundwater recharge through formation of rainwater harvesting structures such as check dams, percolation tanks, minor irrigation tanks and structures such as sub-surface dams and farm ponds.
- Adopting water conservation and management practices such as participatory irrigation management, participatory groundwater management, adopting dry land farming, and promoting micro-irrigation practices, adopting appropriate cropping and cultivation practice.
- Treatment of forest areas in a scientific way by utilizing GIS and MIS.
- Following ridge to valley approach for arresting soil erosion and harvesting rain water as per watershed methodology for treating river basins / sub basins.

3. INSTITUTIONAL ARRANGEMENT:

- a) **At State Level:** The Principal Secretary, Irrigation will act as nodal officer/Convenor to supervise the Mission implementation under the overall guidance of the Advisor (Irrigation and Water Management to Government of Andhra Pradesh) and the chairmanship of the Minister for Irrigation. He will coordinate with the Prl. Chief Conservator of Forests (HOFF), Commissioner(Rural Development), Commissioner (Horticulture), Commissioner (Municipal Administration & Urban Development), Engineer – In – Chief (Major & Medium Irrigation), Chief Engineer (Minor Irrigation), Commissioner (Agriculture) and Director (Groundwater), Director General (APSRAC) for framing policies, decision making, strategizing and monitoring the implementation of the NCM.
- b) **At District / Regional Level:** The District Collector will be the Chairman while Project Director, District Water Management Agency (DWMA) will act as nodal officer to coordinate with Superintending Engineer (Irrigation), District Forest Officer (Forest Dept), Asst. Director (Horticulture), Regional Director (Municipal Administration) etc.
- c) **At Mandal/ Municipality level:** MPDO will act as nodal Officer to coordinate with Asst. Project Directors (RD), Horticulture Officers, Asst. Executive Engineer/Asst. Engineers (Irrigation), Forest Range Officers & Municipal Commissioner (MA & UD).
- d) **At Village / Ward Level:** Grama Panchayat as nodal institution to coordinate with Watershed Committees, Village Organizations, Water User Associations, Vana Samrakshana Samithis, Field Assistants etc.

4. IMPLEMENTATION PROCESS:

There is a necessity of a well designed programme to generate awareness among the village communities and ensure their participation in the programme by using appropriate Information Education & Communication (IEC) material, especially in simple Telugu. A campaign should be taken up in all the villages through deploying dedicated teams.

A. Planning:

- 1. Five Year Perspective plans have to be developed for Water Conservation, Water Management and Plantations in convergence with all partner Departments of NCM.
- 2. Annual Action Plans need to be prepared and targets along with timelines have to be fixed as per the available funds. However, the action plans need to be revisited from time to time depending on the sanctioning of the new projects and availability of additional funding.
- 3. Detailed action plan on water conservation and soil conservation have to be taken up in all the villages specifically by the Rural Development, Agriculture and Horticulture Departments.
- 4. Integrated plan has to be developed for judicious use of rainfall, surface water, ground water and residual moisture to improve water use efficiency and to increase ayacut under projects. It is contemplated to enhance the existing Water Use Efficiency (WUE) by 20%.
- 5. Identification and restoration of existing water harvesting structures executed by various departments has to be done by the Rural Development with the help of technical support from engineering departments.

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6. The territorial chief engineers and superintending engineers of irrigation circles will execute major water harvesting structures as per the action plans based on the run-off calculations for the catchment area.
7. Ground Water Department shall take up village wise ground water budgeting through their Deputy Directors at district level and disseminate information at village level for planning, identifying the sites for rain water harvesting structures as referred to by different departments & prepare conjunctive use plans under major, minor and medium irrigation sources for implementation by irrigation department to close the gap ayacut.
8. For plantations, suitable areas at village / Municipal ward level along with beneficiaries have to be identified through Grama Sabha/ Ward Committee in Municipal areas and common action plans need to be developed at village level with convergence between Self Help Groups (SHGs), Watershed Committees (WSCs), Water User Associations (WUAs), Vana Samrakshana Samithis (VSSs), Village Organizations (VOs), other community based organizations (CBOs), Non-Govt. Organization (NGOs) and at ward level in convergence with SHGs, SLFs, TLFs & NGOs.
9. Measures should be taken to avoid duplication of activities / works while planning.
10. All action plans have to be placed in the Grama Sabha for obtaining the approval and submitting to respective district authorities for technical and administrative sanctions.
11. At District level, convergence action plans have to be evolved by consolidating plans of all partner Departments. Similarly, Department wise action plans have to be consolidated at the state level.

B. Execution:

- i) Training of Trainers (ToTs) and Trainings to be organized on NCM key interventions, GIS, Remote Sensing & MIS applications for the secondary and primary stakeholders of the NCM.
- ii) Each Department should designate functionaries for NCM at every level to facilitate execution of planned interventions / activities as per the approved plans.
- iii) Joint azmoish has to be conducted for establishing the irrigated area under each water body by the irrigation department, agriculture department and Revenue Department every year.
- vi) Silt quality has to be tested by the Agriculture Department & Water quality has to be tested by Irrigation Department.
- iv) APSRAC has to identify suitable locations for RWHS for field verification besides planning for the water grid to meet the needs of drinking water and irrigation requirement as well as providing technical support for GIS analysis & training support to the field/state functionaries in consultation with relevant line departments.
- v) DEEs & AEEs of Irrigation Department and extension officers for Agricultural Department should provide guidance to the WUAs for implementing water conservation management practices such as participatory irrigation management and

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participatory groundwater management for adoption of dry land farming and promoting micro-irrigation practices.

- vi) Raising of nurseries by involving SHGs, VSSs, HNTCs, Horticulture Farms by Horticulture Department, RD Department & Forest Department.
- vii) Supplying of nutrition giving plants like Guava, acid lime, papaya, drum stick, curry leaf & vegetable mini kits by Horticulture Department.
- viii) Developing shelter belt plantations and mangroves along the coast line to reduce the cyclone/flood disasters.
- ix) Usufruct sharing mechanism has to be established toward trees grown in common lands, and tanks keeping the Grama Panchayats in mind.

FUNDING:

Funds will be utilized from the ongoing state plan schemes of GoAP viz., Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Integrated Watershed Management Programme (IWMP), Repair, Renovation & Restoration (RRR), Accelerated Irrigation Benefits Programme (AIBP), World Bank, Japan International Cooperation Agency (JICA), Mission for Integrated Development of Horticulture (MIDH), National Mission for sustainable Agriculture (NMSA), 14th Finance Commissioner funds etc. The nodal officer at state level shall assess available budget with each Department and additional requirement to take up planned interventions and for any additional budget, GoAP has to send proposals to GOI.

MONITORING:

- I. Establishing dedicated data base management system to maintain data generated among all the departments and sharing of the data.
- II. Daily reporting should be done by the Panchayat Secretaries, Field Assistants, Watershed Assistants, AEEs, HOs & FROs to their respective district level officials.
- III. Weekly reviews and monitoring by Mandal/ Municipality officials
- IV. P.D., DWMA will co-ordinate the activities of all the departments under the chairmanship of the District Collector and he/She will convene weekly review meetings besides integrating the MIS.
- V. Fortnightly reviews to be conducted by state level Nodal Officer in coordination with other state level officers
- VI. RD will develop & deploy software module by linking with GIS application for daily/ weekly/ fortnightly MIS in consultation with partner departments and for regular updating of the data entry.
- VII. Various activities of Water Conservation will be monitored closely using mobile technology and IT enabled MIS/GIS system.
- VIII. Regular reviews and video-conferences will be conducted for direct interaction with the field officials/ representatives of SHGs/ User Groups by giving them required guidance. MANA TV facility may also be put to effective use for direct interaction with field functionaries.
- IX. Third party evaluations for quality and quantity check have to be taken up depending on the requirement.

OUTPUTS:

- 7 lakh ha. of gap ayacut to be stabilized.
- 9 lakh ha to be brought under conjunctive use of ground water, surface water and artificial recharge.

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- 15 lakh ha of watershed catchment area to be treated.
- 3.4 lakh Water Harvesting structures to be executed.
- 4.12 lakh ha to be covered under micro-irrigation.
- Increase in existing forest density up to 0.4 density.
- 10 crores of plants to be planted in five years.
- 4 lakh acres to be brought additionally under green cover.
- Renovation of 50 existing nurseries and establishment of 300 new nurseries.

OUTCOME:

- Improvement & enhancement of surface water, soil moisture and ground water.
- Decrease in soil erosion and improvement in soil health
- Contributing to the overall goal achievement of the Primary Sector Mission through increase in the productivity of agriculture, horticulture, animal husbandry & fisheries sectors
- Protecting environment and ensuring Ecological balance

CONSOLIDATION:

The outcomes have to be measured at the end of the five years, evaluated along with the gap analysis for future guidance and improvement of the programme. The guidelines need to be revisited based on the requirement to strengthen the implementation processes.

The main objectives of the NEERU CHETTU–Water Conservation Mission are:

Water Conservation to drought proof the state taking into account the total rainfall, surface flow, and groundwater resources by preparing a time bound plan for ridge to valley treatment of basins. Forest, Rural Development, Irrigation, and Ground Water Departments to play major roles in implementing this plan.

Water Management to use the conserved water in the most efficient manner by the various development sectors of the state's economy. Agriculture, Animal Husbandry, Horticulture, Fisheries, Rural and Urban Water Supply departments will play major roles in implementation.

Important activities to be undertaken by the NEERU CHETTU –WC Mission:

- Inventory of existing water harvesting structures and repairs needed
- Construct new water harvesting structures using remote sensing technology
- Construction of targeted recharge structures (roof water harvesting, artificial recharge of aquifers, and defunct wells)
- Restoration of major, medium and minor irrigation systems (repair of breach to structures and supply channels, desilting of tanks)
- Participatory hydrological monitoring (surface and groundwater) for community water audit and crop water budgeting
- Promote sustainable water use by improved irrigation and agricultural practices

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Expected Outcomes of NEERU CHETTU - Water Conservation MISSION

- Reduce the gap between irrigation potential created and area irrigated
- Increased area under irrigation per unit of water used
- Protective irrigation provided to rain fed crops nearby
- Reduced stream outflow from basin into the sea

Means of communication and dissemination

Sharing of information and proper communication plays a vital role in creating awareness and effective implementation of schemes at the grass root level. Types of Information Education and Communication materials and modes of communication are presented in Table 1:

Table 1: IEC Materials and Modes of Communication

Material	Mode of communication and dissemination
Posters	<ul style="list-style-type: none"> ➤ Display in offices and public meeting places ➤ Schools
Slogans	<ul style="list-style-type: none"> ➤ On offices and public building walls at junctions and prominent places such as shandies, bus stops, bus stands, railway stations, schools, colleges ➤ Display on Flexi boards– at strategic locations ➤ On Public and Private transport vehicles such as RTC, Autos
Wall Paintings	<ul style="list-style-type: none"> ➤ Pictorial representation primarily at concerned Department offices and public places
Pamphlets	<ul style="list-style-type: none"> ➤ To be distributed in public meetings ➤ Made available in offices for visitors and primary stake holders ➤ Circulated along with news papers ➤ Distribution during National Festivals
Hand bills	<ul style="list-style-type: none"> ➤ Along with : News papers, Electricity bills etc.
Print and Electronic media	<ul style="list-style-type: none"> ➤ Theme and season based periodical coverage
Slides	<ul style="list-style-type: none"> ➤ In cinema theatres ➤ In between the TV serials
Skits (Audio and Video)	<ul style="list-style-type: none"> ➤ Audio skits in the morning and evening through public audio systems available in ritual places and GP ➤ Playing audio skits before conduct of Maavuru programme ➤ Video skits through local dish network in between TV serials
Kalajatha	<ul style="list-style-type: none"> ➤ Performances before Maavuru programme at village level ➤ Season and activity based performances.. periodical
Short documentary films	<ul style="list-style-type: none"> ➤ Through electronic media ➤ Made available in U Tube and web site in dual languages ➤ Local cable network
Web site	<ul style="list-style-type: none"> ➤ Web site to have information , display and to have communication link with larger world

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4. The Engineer-in-Chief (Irrigation/Administration), the Director, Ground Water Department, Hyderabad, all District Collectors and concerned are directed to take necessary action accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

**ADITYA NATH DAS
PRINCIPAL SECRETARY TO GOVERNMENT**

To
The Engineer-in-Chief (Irrigation/Administration), GoAP,
Hyderabad (with a request to inform all the C.Es., S.Es., and concerned)
The Director, Ground Water Department, Hyderabad.
All the District Collectors, GoAP.
The Special Commissioner, CADA, Hyderabad.
The Commissioner, Rural Development.
The Special Commissioner, Rural Development, A.P. Hyderabad.
The Addl. PCCF, Forest Department.
Sri Nageswar Rao, Scientist, APSRAC.
The Addl. Director, Horticulture Dept.
The PS to Principal Secretary to Govt., I&CAD Dept.
The PS to Secretary to Govt., I&CAD Dept.
The P.S to Minister for Irrigation, CAD &WRM.
The P.S. to Minister for Environment & Forests, Science & Technology
Cooperation Department.
The P.S. to Minister for Agriculture, Agri-Processing, Marketing &
Warehousing Animal Husbandry, Dairy Development and Fisheries.
The P.S. to Minister for Rural Development, Housing, Sanitation.
The P.S. to Minister for Panchayat Raj, Rural Water Supply, NREGS.
The P.S. to Minister for Municipal Administration and Urban
Development, Urban Water Supply and Urban Planning.
SC/SF

//FORWARDED:: BY ORDER//

SECTION OFFICER